9801

Diag.Cht.No.1242-3.

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey ..... Hydrographic

Field No. HSB-5-3-78

Office No. H-9801

LOCALITY

State ..... Georgia

General Locality .... Cumberland Sound

Locality ... Mill Creek to Stafford Island

1979

CHIEF OF PARTY
T.W. Richards

LIBRARY & ARCHIVES

DATE ..... March 7, 1980

★ U.S. GOV. PRINTING OFFICE: 1976—669-441

9801

Chart 3

Chts
11503
11489
11504

76-40 formerly 4259(79)

NOAA FORM 77-28 (11-72) | U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

REGISTER NO. H-9801

HYDROGRAPHIC TITLE SHEET

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO. HSB-5-3-78

State Georgia

General locality Cumberland Sound

Locality Mill Creek to Stafford Island

Scale 1:5,000 Date of survey ~~Dec. 7, 1978~~ March 20, 1979 - Apr. 18, 1979

Instructions dated July 31, 1978 Project No. OPR-G324-HFP-78*

Vessel Hydrographic Surveys Branch - HFP3 Launch 1283

Chief of party Thomas W. Richards, LCDR, NOAA

Surveyed by Marcella J. Bradley, LT, NOAA

Soundings taken by echo sounder, hand lead, pole All

Graphic record scaled by MB, RS, JD, JO, DE

Graphic record checked by MB B. Verification Branch (AMC)

Protracted by _____ Automated plot by Field - PDP/8e AMC-~~XYNETICS~~ 1200 XYMETICS plotter (AMC)

Verification by AMC - Verification Branch

Soundings in ~~fathoms~~ feet at MLW ~~MKLW~~

REMARKS: MB - M. Bradley *Change No. 1 9/20/78

RS - R. Snow Change No. 2 11/7/78

JD - J. Daniel Change No. 3 2/5/79

JO - J. Oswald Change No. 4 5/9/79

DE - D. Elliott

changes and notes in red ink made by the verifier during verification

Applied to stds 9/10/80

(1.)

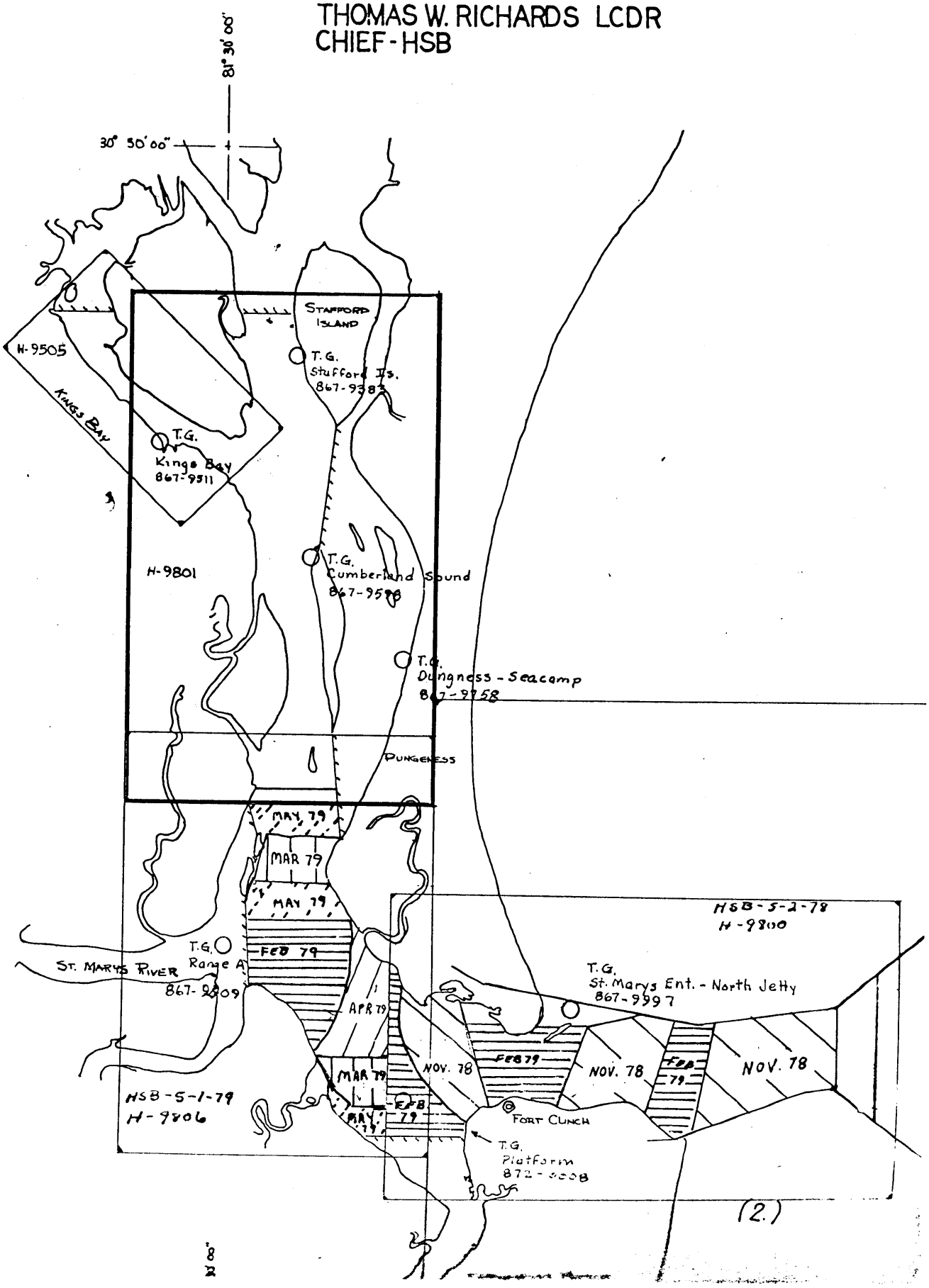
NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

☆ U.S. GPO: 1974-0-768-081/1207

CHART - 11502 (C&GS 1242)

NOAA HFP-2 3

THOMAS W. RICHARDS LCDR
CHIEF - HSB



DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SURVEY H-9801 (HSB-5-3-78)

Scale: 1:5,000
LCDR Thomas W. Richards
LT Marcella J. Bradley

Hydrographic Field Party #3
Chief of Party
Officer-in-Charge
NOAA Launch 1283

A. PROJECT

This survey was accomplished under PROJECT INSTRUCTIONS OPR-G324-HFB-78, Navigable Area Survey, St. Marys Entrance to Kings Bay, Georgia. Project instructions were supplemented by the following: Change No. 1, dated Sept. 20, 1978; Change No. 2, dated Nov. 7, 1978; Change No. 3, dated Feb. 5, 1979, and Change No. 4, dated May 9, 1979.

B. AREA SURVEYED

This survey covers Cumberland Sound, Georgia, between Lat. 30°48'45"N to the north, and 30°45'00"N to the south, and between approximate Long. 81°29'00"W to the east, and 81°30'00"W to the west. Operations were based out of the Amelia Island Marina, Fernandina Beach, Florida, and were conducted during the period of ~~December 7, 1978~~ March 20, 1979 through April 18, 1979, ~~JD341, 1978~~ JD 078, 1979 - JD 108, 1979, inclusive.

C. SOUNDING VESSEL

All sounding on this survey was accomplished using NOAA Launch 1283, EDP number 1283. This is a 17-foot Monark utility boat powered by an 85 hp outboard engine. Vessel configuration is shown in Photograph No. 1, pg. 35. No problems were encountered with the sounding vessel.

NOAA Launch 1281 was used for sounding on JD 341, 1978. This day's data was later rejected when Launch 1281 was returned to AMC for further modifications before settlement and squat corrections had been determined.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Echo soundings were obtained using the following Raytheon 719-B fathometers with a calibrated velocity of sound through water of 800 fms/sec:

JD 79-80	S/N 6211
JD 1-108	S/N 5881

The sounding transducer is mounted permanently through the hull of Launch 1283. No faults in the equipment were observed which might have affected the accuracy of sounding.

A transducer draft correction of 1.0 ft. and all fathometer initial trace corrections, generally maintained at zero on line, have been applied to soundings on the field sheets and will be applied via corrector tapes to the smooth sheet during processing at AMC. Pole soundings were obtained when the bottom trace was obscured by the initial trace.

A settlement and squat test for Launch 1283 was conducted in Kings Bay, Georgia on February 14, 1979. Results of the test are included in the Appendix and indicate a correction of +0.2 ft. to soundings at the survey speed of 2000 rpm's used on this survey. Settlement and squat corrections will be applied via TC/TI tape during smooth plotting at AMC and were not applied to the field sheets.

Corrections to echo soundings for variations in the velocity of sound through water and any residual instrument error were determined from direct comparison bar checks. Chain leads for 1283's bar check gear were purchased and marked on JD 67, 1979. These chains were checked on JD 103 and found to have stretched. Line correctors were determined as shown on the graph included with the direct comparison logs in the Appendix, pg. 17. The chain leads were remarked on JD 103 so that line correctors were zero for JD's 107 and 108. These corrections were not applied to the field sheets, but will be applied during smooth plotting at AMC via a velocity corrector table.

E. HYDROGRAPHIC SHEETS

Field sheets were prepared by HFP-3 using our PDP-8e computer and complot plotter. All field records will be sent to AMC for verification and smooth plotting. All data was recorded and logged manually, then computer reformatted. Final field plotting was then accomplished on HFP-3's hydroplot system. Sheets one and three of four show main scheme hydrography and sheets two and four show all crosslines, bottom samples, detached positions, and developments for the north and south portions of this smooth sheet, respectively. All data was field plotted using predicted tides.

F. CONTROL STATIONS

All control stations used were of third order, class one accuracy, or better. Control station positions for this survey are from a 1978 traverse by Mr. R. Tibbetts, Photo Party #62. Records of all computations reside with Coastal Mapping Division, AMC. A copy of the signal report, SM-7804-GA, January-July, 1978, Kings Bay to St. Marys Entrance, is included with the survey data. A listing of control stations used by HFP-3 is also appended.

G. HYDROGRAPHIC POSITION CONTROL

Sounding line position control for this survey was range/azimuth. The following control equipment was used throughout the survey:

Wild T-2, read to the nearest 1/2 minute, S/N 12118
Del Norte Master "78", S/N 162
Del Norte Remote "72", S/N 256
Del Norte Trisponder, DMU, S/N 429

Del Norte equipment was calibrated, usually twice daily, along distances computed between control stations using Program RK-407, Geodetic Direct and Inverse Computations. Del Norte correctors so determined were applied via corrector tapes to the final field plot and will be applied via the same tapes to the smooth sheet at AMC.

H. SHORELINE

Shoreline details were transfered in blue ink to the field sheets from Class III manuscripts TP-00879, TP-00194, TP-00196, TP-00197, TP-00198, and TP-00200. Shoreline in black ink was verified and transferred from 1979 Class I manuscripts of the same numbers. Manuscripts TP-00194 and TP-00196 are 1:2,500 scale reduced to 1:5,000 for this survey. These reductions were made from Class III manuscripts. A small section of shoreline on the west side of Stafford Island, between Lat. 30°-48'24"N and 30°48'30"N, was not included on any manuscript and was delineated by DP's, Pos. 1086-1092 on JD 87. See Verifiers Report
DP's onshoreline were taken when the tide was 2 Ft below MHW
TPS

I. CROSSLINES

Crosslines were run at 11.2% of the main scheme lines. Crossings are excellent with no disagreements discerned greater than two feet. See Verifiers Report

J. JUNCTIONS

This survey junctions with Contemporary Survey H-9805, HSB-2.5-1-79 at approximate Long. 81°30'00", at the entrance to Kings Bay. H-9805 was accomplished this season with the same vessel, and sounding equipment and agreement is excellent (see soundings plotted in red at reduced Xpan between Lat. 30°47'42"N, and 30°47'24"N at Long. 81°30'00"W on sheet one of four). This survey will also junction with Contemporary Survey H-9806, OPR-G324-HFP-78, HSB-5-1-79 to the south at approximate Lat. 30°45'00"N. H-9806 had not been completed as of this writing. Refer to the Descriptive that accompanys Hydrographic Survey H-9806, Section J, for a discussion of this junction. * See Verifiers Report

K. COMPARISON WITH PRIOR SURVEYS

Presurvey Review Item #2: Shoal reported 1976, 30°47.72', 81°29.46', U.S. Power Squadron (CL-1015/76), shoal reported 1976, 30°47.30', 81°29.50', U.S. Power Squadron (CL-1015/76). Main scheme hydrography, Pos. 420 - 466, run at 50 meter line spacing, verifies shoaling in this area. Main scheme further indicates that this shoaling is a result of a general shifting of the channel between Lats. 30°46'58" and 30°47'37". (See letter to USCG, dated May, 1979, in the Appendix). The southern end of this section of the ICW channel has moved approximately 150 meters west while the northern end of this section of channel has migrated an approximately equal amount eastward. It should be further noted that the 6-foot curve is within 100 meters of the channel at this northern end, and that the 12-foot curve in fact crosses the channel between buoys "74" and "75." There is, in fact, a bar across the channel of 11 foot depths. The project depth of this portion of the ICW is 12 feet. The notes "Shoal Rep 1976" may be removed from the chart when soundings from this survey showing the shifted channel are applied. Chart depths as shown on the present survey. JPS

This is an area of dynamic changes in the bottom configuration, due to the swift tidal currents, and especially due to the present dredging of the Kings Bay approach channel. These changes make detailed comparison with the prior survey, H-5753, 1934, meaningless. Therefore, further comparison of the present survey is reserved for the next section of this report, Comparison with the Chart. See Verifiers Report

L. COMPARISON WITH THE CHART

This survey was compared with Chart 11503, (formerly Coast and Geodetic Survey 453) 29th edition, July 9, 1977, Scale 1:20,000 utilizing a 1:5,000 scale chart blow-up. This survey indicates many changes in the bottom configuration. Depths in the channel north of 30°48'15"N have become 3-9 feet shallower while the 12-foot curve on the west side of the channel has moved 50-100 meters further west. In the vicinity of 30°48'10"N, 81°29'37"W, soundings have become approximately 8 feet shoaler, while in the vicinity of 30°47'10", 81°29'10", depths have generally become five feet deeper. The controlling depth of the approach channel to Kings Bay from St. Marys Entrance has, of course, been increased while depths surrounding the channel show evidence of dynamic change southward to Lat. 30°46'15"N. Between Lat. 30°46'15"N and 30°45'25"N, the bottom configuration outside the channel has remained basically unchanged, ~~as has the~~ shoreline, according to Class I manuscripts, March 1979. Big Marsh Island, however, no longer bares at MLW, see letter from CDR Sminky, USN to Defense Mapping Agency, Hydrographic Center, dated April 28, 1978, included with project instruc-

tions. The northern limit of a 12-foot shoal extending north from the charted position of Big Marsh Island is delineated by main scheme hydrography and development run at reduced line spacing, Pos. 38 - 111 and Pos. 1320 - 1335.

In the vicinity of 30°47'20", 81°29'52", a new dock (pier) is under construction (see Photographs #3 and #4, pg. 36). Pile driving operations made sounding around the new dock impossible at this time. DP's Pos. 1285-1290 of several corner piles cost us a large dent in our bow below the water line.

Class one manuscript shoreline (March 1979) when compared with the charted shoreline shows that the shoreline has generally receded 25-30 meters between Lats. 30°47'00" and 30°47'30" on the western shore of Cumberland Sound, near the mouth of Kings Bay. Piles, DP Pos. 1219-1220, do not appear on the chart, but do appear on the manuscript incorrectly labeled as tanks, see Photographs #2, 3 and 4, pages 35&36, very near the shoreline, at 30°47'22", 81°30'03". Piles, DP Pos. 1221-1222, and Piling, DP Pos. 450 do not appear on the chart or on the manuscript, but should be charted at 30°47'11", 81°29'51" and 30°47'13" 81°29'51" respectively, as shown on the field sheet. (See Photographs #5 and 6, page 37.) chart items as water shown on the present survey JPS

concur Class III shoreline manuscripts were used to transfer S.L. to the smooth sheet. JPS

M. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys for charting. Revisory photogrammetry should be considered in the future when shoreline changes resulting from the dredging operations have ceased. Final positions of Aids to Navigation should be obtained from LCDR Wilkins, USCG, Seventh District, Miami, Florida, telephone FTS 350-5621. Post dreding surveys should be obtained from the U.S. Army Corps of Engineers. concur

N. AIDS TO NAVIGATION

As discussed in Sections L and M of this report, Coast Guard installation and removal of Aids to Navigation had not been completed when HFP-3 stopped survey operations. A plan for aids to navigation in this area was obtained from USCG, LCDR Wilkins, on April 27, 1979, and is included with the survey records. The positions indicated on this plan should be verified by direct contact with LCDR Wilkins before their application to the chart. concur This plan did not accompany survey records. JPS

NOAA Forms 76-40, Non-floating Aids to Navigation, prepared by Coastal Mapping Division, are included in the Appendix. These forms have been updated by HFP-3 as well as could be managed, via direct observations, and reference to Local Notices to Mariners, applicable portions of which are included with the survey records.

O. STATISTICS

Total number of positions	1322
Nautical miles of sounding line	86.5
Nautical miles of crossline	9.7
Nautical miles of development	3.4
Total nautical miles of hydro	99.6
Total square nautical miles of hydro	2
Total number of bottom samples	40

P. MISCELLANEOUS ✓

1. Kings Bay Tide Station, 867-9511, was to have been the controlling station for this survey, but was found to have settled approximately 0.2 feet from installation to April 13, 1979. The controlling station has therefore, been changed to Dungeness, Seacamp Dock Tide Station on Cumberland Island, 867-9758, with the permission of C231. See field Tide note in separates following text of this report for more details.

2. Main scheme arcs, Pos. ~~1307-1314~~, no at approximate Lat. 30°46'33", and Pos. 1299-1306 at approximate latitude 30°46'49", plotted on sheets four and two respectively, were run after dredging. Other soundings between Lats. 30°46'35" and 30°47'00" were obtained before dredging had occurred. Post dredging arcs show the channel to be approximately 8 feet deeper, with no significant changes in the bottom configuration outside of the channel.

Q. RECOMMENDATIONS

See Section M of this report.

R. AUTOMATED DATA PROCESSING

The following computer programs were used during this survey:

RK201	Grid, Signal & Lattice Plot	4/18/75
RK212	Visual Station Load & Plot	4/10/74
RK216	Range-azimuth non real time plot	2/05/76
RK300	Utility program	2/10/76
RK330	Data Check & Reformat	3/12/76
RK407	Geodetic Inverse-Direct Computation	10/3/75
AM602	Extended Line Oriented Editor (ELINORE)	5/20/75
AM500	Predicted Tide Generator	11/10/72

S. REFERENCE TO REPORTS

Signal Report, SM-7804-GA, Jan.-Jul., 1978, Kings Bay to St. Marys Entrance, Photo Party #62, Mr. R. Tibbetts.

Descriptive Report to accompany Hydrographic Survey H-9806, HSB-5-1-79.

Descriptive Report to accompany Hydrographic Survey H-9805, HSB-2.5-1-79.

Respectfully submitted,

for Robert Lewis
Marcella J. Bradley
LT, NOAA
Officer-in-Charge, HFP-3

FIELD TIDE NOTE

H-9801 (HSB-5-3-78)

Field tide reduction of soundings was based on predicted tides from Savanah River Entrance, Georgia, corrected to St. Marys River Entrance, North Jetty and were interpolated by PDP8/E computer utilizing program AM500.

Four tide gages were installed in or near the survey area.

SITE	LOCATION	PERIOD
Cumberland Is., GA. ✓ 867-9758	30° 45.2' (6 6) 81° 29.4'	Nov.1978 to still in operation
Drum Point Is.,GA. not used on H9801 867-9598	30° 46.6' 81° 29.2'	Nov.1978 to Apr.19,1979
Kings Bay, GA. Not used on H9801 867-9511	30° 47.7' 81° 30.6'	Nov.1978 to Apr.18,1979
Stafford Is.,GA. ✓ 867-9383	30° 48.7' ✓ 81° 29.4'	Oct.1978 to Apr.23,1979

Cumberland Island (Dungeness) 867-9758

Gage (Leupold & Stevens ADR -S/N 7301-75952-78) was installed and began operation on 12 November 1978. The staff was installed and leveled 12 November 1978. Excellent records were obtained throughout the survey period. The staff was re-leveled April 10,1979 by request of Tides Branch C231. There was no shift in staff elevation to be noted.

A contract observer was obtained on 1 May 1979. This gage will remain in operation for one year.

Drum Point Island 867-9598

Gage (Bristol bubbler S/N 64 A 11034) was installed and began operation 13 November 1979. The staff was installed on Day Beacon "22" and leveled 13 November 1978. Acceptable records were obtained through December 20,1978 when the gage was shut down for the Christmas holidays. On January 6, 1979 the gage was put back in operation, however the clock fluctuated during January. The clock was replaced on February 7, 1979 and the gage worked good for two weeks at which time it began to step at high and low water. On March 7 the staff and orifice were lowered 2 feet due to the gage "bottoming out" at low water. The gage worked good from this time unitl April 19,1979,orifice line was cut. The gage was removed and the staff was leveled on April 19, 1979. (No change in staff elevation is to be noted.)

Kings Bay 867-9511

Gage (Bristol bubbler S/N 75939-76) was previously installed and operated by the USCOE. Levels were run by HFP3 to the Corps of Engineers staff on 16 november 1978. Records obtained from the Corps of Engineers gage were of poor quality. On 9 January 1979, HFP3 installed a Fischer-Porter ADR gage (S/N R7006A5833M19) and a new staff on the same pier. Levels were run to the new staff on 9 January. On April 12, 1979, a new set of levels were run to this staff due to a noticeable shifting of this awkwardly located installation. Field comparison of these leveling results

with levels obtained at its installation show that the staff is now approximately 0.2 feet lower. This sinking of the staff and gage must be assumed to have begun immediately upon installation and to have continued at a linear rate to its level on April 12, 1979.

Permission was obtained on April 24, 1979 from C231 to remove this gage at completion of hydrographic operations, and to substitute Station 867-9758, Dungeness Cumberland Island, Georgia for the long term tidal prediction gage.

Stafford Island, GA. 867-9383

Gage (Metercraft S/N 7603-686-68) and staff were installed 25 October 1978. The gage was put into operation upon installation, however the staff wasn't leveled in until 15 November 1978. Good records were obtained until the gage was shut down 20 December 1978 for the Christmas holidays. In January 1979 Day Beacon #71 on which the staff and orifice was installed was destroyed. On February 1, 1979 the U.S. Coast Guard replace the day beacon and a new staff was installed and leveled. The gage worked good but bottomed out at low tide. On March 7, 1979 the staff and orifice were lowered 2 feet and new levels were run. During the first days of operation the gage did not correspond correctly to the staff readings. On 12 March the gage pen was adjusted downward to correspond exactly with the staff and the gage gave excellent records throughout the remainder of the project.

The gage was removed and leveled out on 30 April 1979.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY

Date : April 16, 1979

Reply to Attn. of:

To : Chief, Tides Branch

From : Lt. Marcella J. Bradley, NOAA
Officer in Charge, HFP-3

Subject: Request for Tide Data

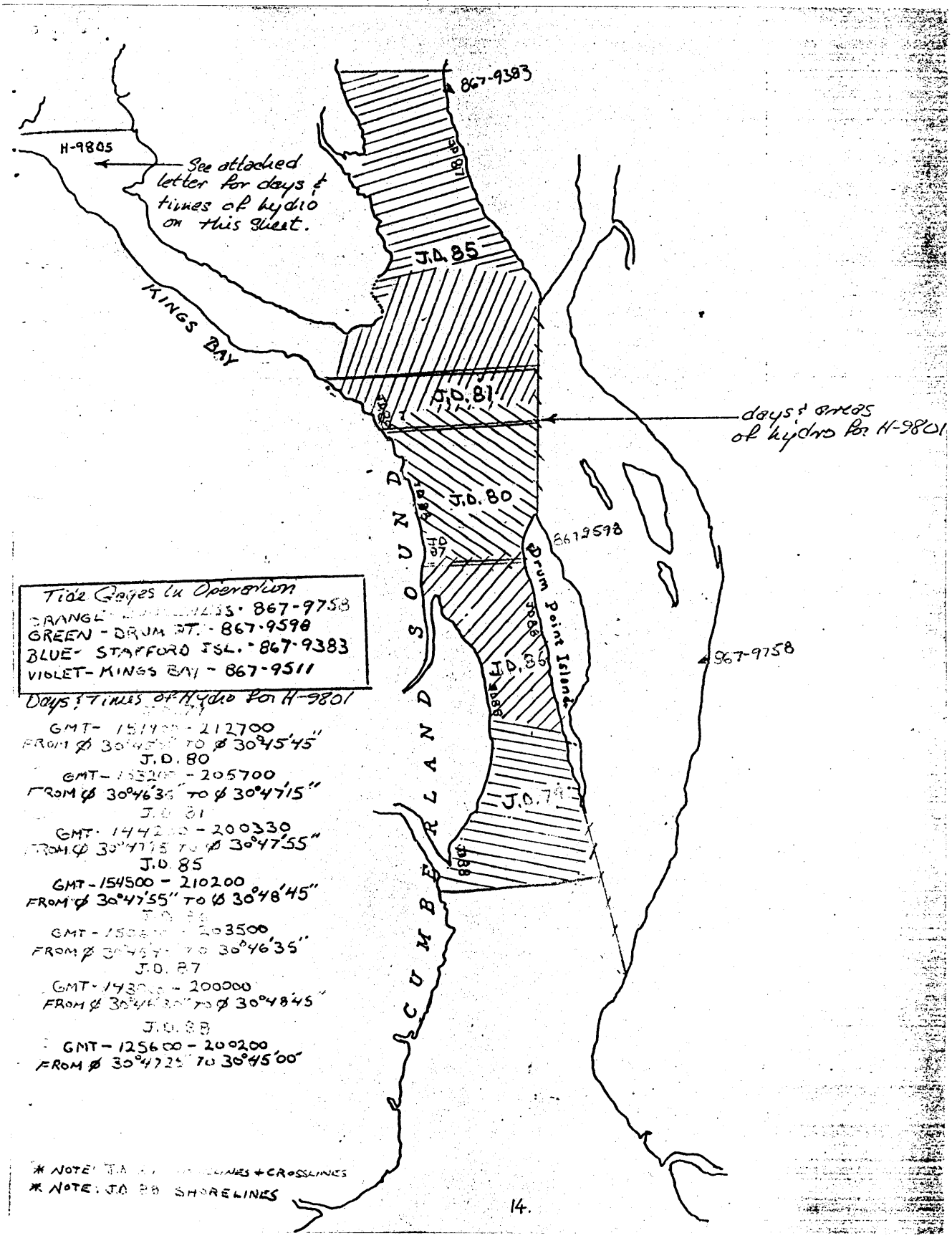
Please provide data from the King's Bay tide gage, 867-9511, for the period of its operation to Mr. Richard Goff at the following address:
Hydrolics Department
Department of the Army
Savannah Corps. of Engineers
P.O. Box 889
Savannah, Georgia 31402
Phone: FTS 248-8456

In addition, please provide data, and zoning information to AMC Processing Division for surveys H-9805 (HSB-2.5-1-79)andH-9801(HSB-5-3-78), project OPR G324-HFP-79.

The following items of hydrogaphy for H-9805 include two hours before and after actual times:

J.D.(1979)	Hydro begins (GMT)	Hydro ends 'GMT)
39	1307	2047
40	1425	1920
43	1554	2214
45	1320	2217
47	1310	2200
58	1406	2153
60	1245	2350
61	1301	2152
66	1220	2004
74	1335	2135
78	1240	1900

Times and areas of hydrography for H-9801 are shown on the attached chartlet.


867-9383
H-9805
See attached letter for days & times of hydro on this sheet.
KINGS BAY
J.D. 85
J.D. 81
days & times of hydro for H-9801
J.D. 80
8679598
Drum Point Island
J.D. 87
J.D. 88
867-9758
SOUND
CUMBERLAND
Tide Gages in Operation
ORANGE - [illegible] - 867-9758
GREEN - DRUM PT. - 867-9598
BLUE - STAFFORD ISL. - 867-9383
VIOLET - KINGS BAY - 867-9511
Days & Times of Hydro for H-9801
GMT - 151[illegible] - 212700
FROM ϕ 30°[illegible] TO ϕ 30°45'45"
J.D. 80
GMT - [illegible] - 205700
FROM ϕ 30°46'35" TO ϕ 30°47'15"
J.D. 81
GMT - 144[illegible] - 200330
FROM ϕ 30°47'15" TO ϕ 30°47'55"
J.D. 85
GMT - 154500 - 210200
FROM ϕ 30°47'55" TO ϕ 30°48'45"
J.D. [illegible]
GMT - [illegible] - 203500
FROM ϕ 30°[illegible] TO 30°46'35"
J.D. 87
GMT - 143[illegible] - 200000
FROM ϕ 30°[illegible] TO ϕ 30°48'45"
J.D. 88
GMT - 125600 - 200200
FROM ϕ 30°47'25" TO 30°45'00"
* NOTE: J.D. [illegible] SHORELINES + CROSSLINES
* NOTE: J.D. 88 SHORELINES

NOAA FORM 76-155
(11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

SURVEY NUMBER

H-9801

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
Cumberland Sound										1
Kings Bay										2
Cumberland Island										3
Stafford Island										4
Drum Point Island										5
Mill Creek										6
~~Big Marsh Island~~	No longer exists									7
~~Georgia~~										8
~~Cumberland Sound~~										9
										10
										11
										12
										13
					Approved:					14
										15
					Chas. E. Harrington					16
					Chief Geographer ~ C3x5					17
					14 MAY 1980					18
										19
										20
										21
										22
										23
										24
				(15.)						25

NOAA FORM 76-155 SUPERSEDES C&GS 197

☆ U.S. G.P.O. 1972-769-565/516 REG.#6

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3

CORRECTIONS IN FEET, [redacted]

FORM C&GS-117 (4-62)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

VELOCITY CORRECTIONS

Ship LAUNCH 1283

T.W. RICHARDS LCDR, NOAA Comdg.

These corrections are to be used

between MARCH 1979 and APRIL 1979

in the locality CUMBERLAND SOUND, GEORGIA

for hydrographic surveys Nos. H-9801 OAR-6324 HSD-5-3-78

CORR.	DEPTH
0.0	7.0
+ 0.2	14.5
0.4	26.0
0.6	34.8
0.8	49.5
1.0	55.0
~~9.9~~	0.0

DEPTHS IN [redacted] FEET

(For deep water add a 0 to these figures

5 10 15 20 25 30 35 40 45 50 55 60 130 140 150 160 170 180 190

JMB

(18.)

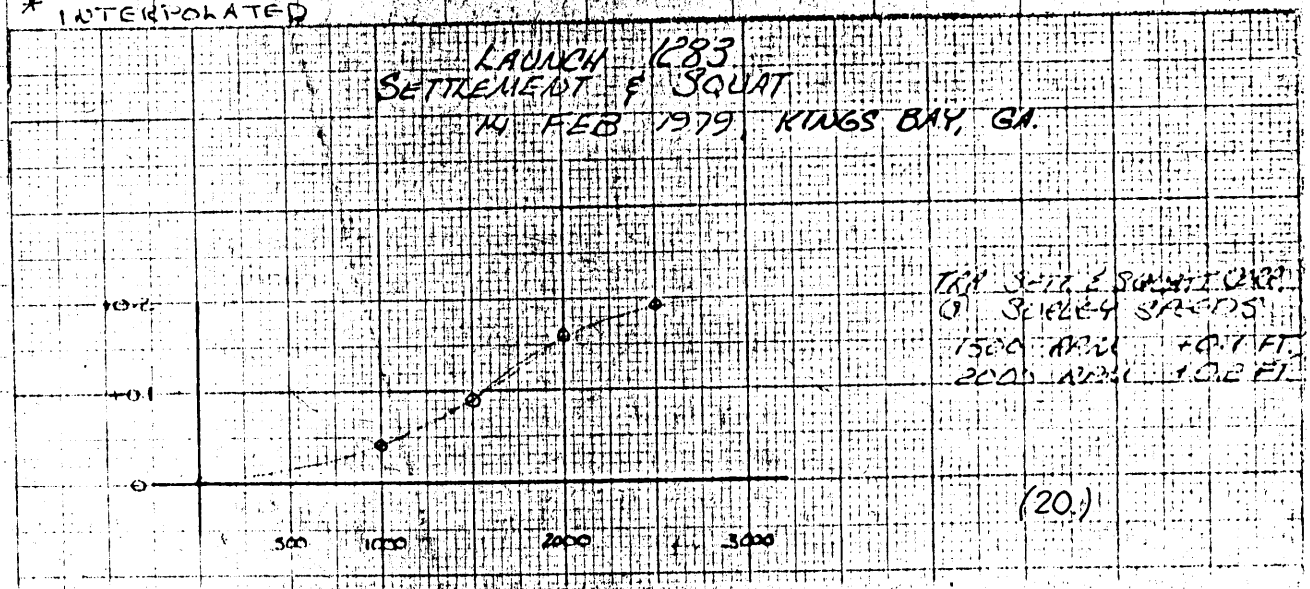
TIME	RPM	LEVEL	DIFF
1708	0	11.255	
1710	1000	11.326	
	0*	✓11.298	0.028✓
1711	1500	11.413	
	0*	✓11.319	0.094✓
1712	2000	11.505	
	0*	✓11.341	0.164✓
1713	2500	11.582	
	0*	✓11.362	0.220✓
1715	0	11.405	
1716	1000	11.481	
	0*	✓11.434	0.047
1717	1500	11.548	
	0*	✓11463	0.085✓
1718	2000	11.622	
	0*	✓11.492	0.180✓
1719	2500	11.705	
	0*	✓11.521	0.184✓
1720	0	11.550	
1721	1000	11.625	
	0*	✓11.578	0.047
1722	1500	11.695	
	0*	✓11.607	0.088
1723	2000	11.781	
	0*	✓11.635	0.146
1724	2500	11.835	
	0*	✓11.664	0.171
1725	0	11.692	

* INTERPOLATED

RPM	DIFF	TRA CORR
0	0	0
1000	0.028	
	0.047	
	0.047	✓
	AVG.	+0.04
1500	0.094	
	0.085	
	0.088	✓
	AVG.	+0.09
2000	0.164	
	0.180	
	0.1416	✓
	AVG.	+0.16
2500	0.220	
	0.184	
	0.171	✓
	AVG.	+0.19

MB
✓ JLD

LAUNCH 1283
SETTLEMENT & SQUAT
14 FEB 1979 KINGS BAY, GA.



TRY 3-12 & SQUAT CORR
@ SELECTED SPEEDS
1500 AVG +0.1 FT.
2000 AVG +0.2 FT.

(20)

OPR-G324

H-9801 (HSB-5-3-78)

SIGNAL TAPE

002	4	30	45	29696	081	28	59502	139 0005 000000	CUMBERLAND SOUND RANGE C FRONT LT. 1978
003	2	30	46	34882	081	29	07628	250 0000 000000	H-62-15-GA-78
005	1	30	46	52099	081	29	18557	139 0005 000000	CUMBERLAND SOUND RANGE D FRONT LT. 1978
006	1	30	47	23159	081	29	24099	250 0005 000000	CUMBERLAND SOUND RANGE D REAR LT., 1978
007	6	30	44	56002	081	29	24207	250 0005 000000	CUMBERLAND SOUND RANGE B REAR LT., 1978

ALL CONTROL LOCATED BY 3RD ORDER TRAVERSE - PHOTO PARTY 62

Richards

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

NONFLOATING AIDS

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

FOR CHARTS

ORIGINATING ACTIVITY
- [ ] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [X] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [XX] TO BE CHARTED
- [ ] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office): Coastal Mapping Div. A.M.C. Norfolk,Va.

STATE: Georgia

LOCALITY: Kings Bay to ST.Marys Entrance

DATE: Mar.1979

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.: G324

JOB NUMBER: CM-7804

SURVEY NUMBER: TP-00198

DATUM: N.A.1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
LIGHT	Cumberland Sound Range C Front Light	30 45	29.6960 914.5	81 28	59.5023 1582.5	78E(P)8493 Mar.24,1978	F-V-Vis. Nov.9,1978	11503
LIGHT	*Cumberland Sound Range C Rear Light TBR Not located by hydrographer	30 46	25.5048 785.4	81 28	54.8736 1459.2		F-3-6-L July,1978	11503
LIGHT	(Cumberland Sound Beacon No. 15,1933) Gone Light removed	30 46	36.774 1132.5	81 29	10.818 287.7	78E(P)8328 Mar.23,1978	Light Removed F-V-Vis. Nov.1978	11503
LIGHT	Cumberland Sound Range D Front Light	30 46	52.0988 1604.4	81 29	18.5571 493.4		F-3-6-L July,1978	11503
LIGHT	Cumberland Sound Channel Light 22	30 46	34.3988 1059.3	81 29	11.2944 300.3		F-3-6-L July,1978	11503
(191)	L-259(79)							
	*TBR - To be removed							

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	A.Bryson	☒ PHOTO FIELD PARTY ☐ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	A.Bryson	FIELD ACTIVITY REPRESENTATIVE
	F.Margiotta	OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field Identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

Richards

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

NONFLOATING AIDS

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
FOR CHARTS

ORIGINATING ACTIVITY
- ☐ HYDROGRAPHIC PARTY
- ☐ GEODETIC PARTY
- ☐ PHOTO FIELD PARTY
- ☒ COMPILATION ACTIVITY
- ☐ FINAL REVIEWER
- ☐ QUALITY CONTROL & REVIEW GRP.
- ☐ COAST PILOT BRANCH

(See reverse for responsible personnel)

☒ TO BE CHARTED
☐ TO BE REVISED
☐ TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
Coastal Mapping Div. A.M.C. Norfolk, Va.	Georgia	Kings Bay to ST. Marys Entrance	Mar. 1979

The following objects HAVE ☒ HAVE NOT ☐ been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
G324	CM-7804	TP-00200	N.A.1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
LIGHT ✓	Cumberland Sound Channel Light 20 GONE - replaced with C.S.C. Lt. 34 east of 20	30 45	14.3064 440.56	81 28	58.6361 1559.54	78E(P)8494 March 4, 1978	F-3-6-L July, 1978	11503
LIGHT ✓	Cumberland Sound Channel Light 19 not on H 9801	30 44	42.6522 1313.47	81 29	06.8173 181.34	78E(P)8495 March 4, 1978	F-3-6-L July, 1978	11503
LIGHT ✓	Cumberland Sound Range B Front Light not on H 9801	30 44	20.5907 634.09	81 29	13.6376 362.79	78E(P)8495 March 4, 1978	F-3-6-L July, 1978	11503
	L-259(79)							
(30.)								

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	A.Bryson	[X] PHOTO FIELD PARTY. [ ] HYDROGRAPHIC PARTY [ ] GEODETIC PARTY [ ] OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	A.Bryson	FIELD ACTIVITY REPRESENTATIVE
	F.Margiotta	OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		[ ] REVIEWER [ ] QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field Identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

Richards

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

NONFLOATING AIDS

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

FOR CHARTS

ORIGINATING ACTIVITY
- [ ] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [XX] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [X] TO BE CHARTED
- [ ] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
Coastal Mapping Div. A.M.C. Norfolk, Va.	Georgia	Kings Bay to St. Marys Entrance	Mar.1979

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
G324	CM-7804	TP-00194	N.A.1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE // D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE // D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
DAY BEACON	Cumberland Sound Daybeacon 71 Pos # 809	30 48	44.75 1378	81 29	24.56 653	78K(I)3250 Mar.23,1978	F-V-Vis Nov.10,1978	11503
	L-259(79)							
(31)								

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	A.Bryson	[XX] PHOTO FIELD PARTY [ ] HYDROGRAPHIC PARTY [ ] GEODETIC PARTY [ ] OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	A.Bryson	FIELD ACTIVITY REPRESENTATIVE
	F.Mauldin	OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		[ ] REVIEWER [ ] QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

Richards

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [ ] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [XX] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

XXX [XX] TO BE CHARTED
[ ] TO BE REVISED
[ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
Coastal Mapping Div. A.M.C. Norfolk, Va.	Georgia	Kings Bay to ST. Marys Entrance	Mar. 1979

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
G324	CM-7804	TP-00198	N.A.1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
TANK	(Greyfield Tank, 1932) off smooth sheet of H-9801	30 46	43.163 1329.2	81 28	07.540 200.5	78E(P)8492 Mar. 24, 1978	Triang. Rec. Nov. 2, 1978	11503
	L-259(79)							
(32.)								

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	A.Bryson	[X] PHOTO FIELD PARTY [ ] HYDROGRAPHIC PARTY [ ] GEODETIC PARTY [ ] OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	A.Bryson	FIELD ACTIVITY REPRESENTATIVE
	F.Margiotta	OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		[ ] REVIEWER [ ] QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

Richards

NOAA FORM 76-40 (8-74)
Replaces C&GS Form 567.

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NONFLOATING AIDS

FOR CHARTS

ORIGINATING ACTIVITY
- [ ] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [X] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [XX] TO BE CHARTED
- [ ] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office): Coastal Mapping Div. A.M.C. Norfolk, Va.
STATE: Georgia
LOCALITY: Kings Bay to St. Marys Entrance
DATE: Mar.1979

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.: G324
JOB NUMBER: CM-7804
SURVEY NUMBER: TP-00196
DATUM: N.A.1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE // D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE // D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
LIGHT	Kings Bay Range E Rear Light TBR	30 47	37.6460 1159.3	81 29	54.1116 1438.7	78E(P) 8262 Mar.23,1978	F-3-6-L July,1978	11503
LIGHT	Cumberland Sound Range D Rear Light	30 47	23.1592 713.2	81 29	24.0988 640.7		F-3-6-L July 1978	11503
LIGHT	Cumberland Sound Light 76	30 47	49.0967 1511.9	81 29	31.3550 836.6		F-4-8-L Nov 13,1978	11503
DAY BEACON	Cumberland Sound Daybeacon 72 Pos# 811 810 (Referenced, pos. 810)	30 48	13.1607 405.3	81 29	28.0463 745.6		F-4-8-L Nov.13,1978	11503
DAY BEACON	Cumberland Sound Daybeacon 78 Replaced with temp. Buoy #78 (lighted) Pos#816	30 47	17.1612 528.5	81 29	32.3519 860.2		F-4-8-L Dec.1,1978	11503
LIGHT	Cumberland Sound Channel Light 77 ? GONE Replaced with temp. ~~Light~~ Buoy 75 Pos# 815	30 47	24.6610 759.4	81 29	29.1800 775.8		F-3-6-L July,1978	11503
(33)	L-259(79)							
	* TBR - To be removed							

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	A.Bryson	[X] PHOTO FIELD PARTY [ ] HYDROGRAPHIC PARTY [ ] GEODETIC PARTY [ ] OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	A.Bryson	FIELD ACTIVITY REPRESENTATIVE
	C.Blood	OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		[ ] REVIEWER [ ] QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field Identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

APPROVAL SHEET
Survey H-9801 (HSB-5-3-78)

The hydrographic records transmitted with this navigable area survey are complete and adequate to supersede prior surveys for charting with no additional hydrography recommended. Revisory photography should be scheduled soon to better delineate shoreline changes resulting from recent dredging in this area.

Direct daily supervision was not given by me during the field work.

Approved and forwarded,

Thomas W. Richards
Lt. Cdr. , NOAA
Chief, Hydrographic Surveys Branch

June 12, 1979

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): 867-9598 Cumberland Sound, GA
867-9383 Stafford Island, GA

Period: March 21 - April 18, 1979

HYDROGRAPHIC SHEET: H-9801

OPR: G 324

Locality: Cumberland Sound, Georgia

Plane of reference (mean ~~lower~~ low water): 3.3 ft. - Cumberland Sound
2.7 ft. - Stafford Island

Height of Mean High Water above Plane of Reference is
6.4 ft. - Cumberland Sound; 6.4 ft. - Stafford Island

Remarks: Recommended zoning:

(1) South of 30°47.7' zone direct on Cumberland Sound.

(2). North of 30°47.7' zone direct on Stafford Island.

Milton S. Rubenstein
for Chief, Datums and Information Branch

APPROVAL SHEET
FOR
SURVEY H-9801 (1978)

A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has not~~ been made. A new final sounding printout has/~~has not~~ been made.

B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the Verifier's Report.

Date: 1-22-80

Signed: [signature]

Title: Chief, Verification Branch

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

August 30, 1979

OA/C3421:ELR

TO: OA/C3222 - James W. Dailey

FROM: OA/C342 - John D. Perrow, Jr.

SUBJECT: Cancellation of Blue Print Numbers Assigned to Twelve Class I Maps in Job CM-7804, Kings Bay to St. Marys Entrance, Georgia-Florida

Blue Print numbers BP-107091 through BP-107102 should be canceled from all Nautical Chart Branch STANDARDS. These Blue Print numbers are assigned to Class I Maps, TP-00193 through TP-00203, in Job CM-7804. The maps have not and will not be used to update NOS nautical charts within the area. The maps are labeled VOID and will be filed in the Nautical Data Section for reference purposed only. The original Class III Maps will be revised to depict the extensive dredging work done after the maps were compiled.

New photography will be flown in October 1979 and all 12 maps, TP-00193 through TP-00203, will be revised. The new revision will be field edited and registered in the Bureau Archives as Final Field Edited Maps.

Upon completion of each phase of compilation, Class I and Final Map copies will be furnished the Nautical Data Section for assignment of new Blue Print numbers.

cc:

C342
C3421
CAM52
CAM521

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

H-9801

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	6&0
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS. 1 ARC, 2 EXCESS	3

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						1 - misc. data
CAHIERS	1 - with printouts					
VOLUMES	5					
BOXES			1 - Smooth			

T-SHEET PRINTS (List)

SPECIAL REPORTS (List) 1 - Cht. mark-up

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS		
	PRE-VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			1362
POSITIONS CHECKED		13	
POSITIONS REVISED		7	
SOUNDINGS REVISED		40	
SOUNDINGS ERRONEOUSLY SPACED			
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED			
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	8		
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS		24	
VERIFICATION OF SOUNDINGS		109	
COMPILATION OF SMOOTH SHEET		32	
APPLICATION OF TOPOGRAPHY		8	
APPLICATION OF PHOTOBATHYMETRY			
JUNCTIONS		4	
COMPARISON WITH PRIOR SURVEYS & CHARTS		24	
VERIFIER'S REPORT		24	
OTHER			
TOTALS	8	225	233

Pre-Verification by HRS	*Beginning Date* 7/16/79	*Ending Date* 7/16/79
Verification by SKK LGC	*Beginning Date* 9/15/79	*Ending Date* 12/19/79
Verification Check by HRS	*Time (Hours)* 6	*Date* 12/21/79
Marine Center Inspection by HIT	*Time (Hours)* 16	*Date* 1/21/80
Quality Control Inspection by F.P. SAULSBURY	*Time (Hours)* 70	*Date* 4-10-80
Requirements Evaluation by [signature]	*Time (Hours)* 2	*Date* 7/16/80

S. Myers 5/9/80 8 Sheets

REGISTRY NO. H-9801

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE 4/85 TIME REQUIRED _____ INITIALS LG

REMARKS:

REGISTRY NO. H-9801(1978)

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE 4/85 TIME REQUIRED _____ INITIALS LG

REMARKS:

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9801 FIELD NO. HSB-5-3-78

Georgia, Cumberland Sound, Mill Creek to Strafford Island

SURVEYED: March 20 through April 18, 1979.

SCALE: 1:5,000 PROJECT NO: OPR-G324

SOUNDINGS: DE-719 B Fathometer, Sounding Pole CONTROL: Range-Azimuth (Del-Norte and Theodolite)

Chief of Party . . . . . T. W. Richards

Surveyed by. . . . . M. J. Bradley

Automated Plot by . . . . . Xynetics 1201 Plotter (AMC)

Verified and Inked by . . . . . L. G. Cram
19 December 1979

1. INTRODUCTION

a. Two unusual problems were encountered; one was the use of Class III maps to depict the shoreline on this survey as per letter of August 30, 1979 (appended to back of Descriptive Report). The other involved crosslines that were run after regular line spacing and after dredging was done.

b. Some notes and changes were made in the Descriptive Report by the verifier during verification.

2. CONTROL AND SHORELINE

a. The source of control is adequately described in Sections F and G of the Descriptive Report.

b. Shoreline for the survey was transferred from Class III manuscripts TP-00879, TP-00194, TP-00196, TP-00197, TP-00198, and TP-00200 as per letter dated August 30, 1979. There were three problems encountered when applying this shoreline; an area from approximate Latitude 30°48'24", Longitude 81°29'18" to Latitude 30°48'30", Longitude 81°29'20" was not covered by any of the manuscripts listed above. No problem, Hydrographer located this shoreline with D.P.S The other problem was that the field ran a line of hydrography across a point of land at approximate Latitude 30°47'44", Longitude 81°29'47". Shoreline was dashed in red to depict uncertainty It is possible that the field unit ran across this point at high tide and that it is marsh as the soundings are all minus two and three feet. concur JPS Items were shown on Class III manuscripts and not shown on Class I manuscripts or addressed by hydrographer as follows:

1) The platform shown on Class III TP-00196 in the vicinity of Latitude 30°47'17", Longitude 81°29'42" was not shown on Class I manuscript nor addressed by the hydrographer. The field edit was consulted and it was stated the U.S. Coast Guard removed this item as it was an old light platform. ~~Recommend~~ DC not char~~ting~~ this item. concur JPS NC

2) The object shown on Class III manuscript TP-00198 and called Cumberland Sound Beacon No. 15,1933, was not shown on the

Class I manuscript. The field editor states this item not visible and was probably removed. Recommend not charting this item. concur JPS
This daybeacon was removed from the chart prior to the survey date.

3) A pile symbol which appears on Class III manuscript TP-00198 in the vicinity of Latitude 30°46'35", Longitude 81°29'17" was not on the Class I manuscript and the field editor identifies this item as can buoy #23. It appears that this buoy has been removed. Recommend not charting the pile nor buoy in this location. A check should be made of the aids in this area as per Descriptive Report (Section "N"). NC concur JPS

4) A pile symbol which appears on Class III manuscript TP-00198 in the vicinity of Latitude 30°46'38", Longtitude 81°29'10" was not on the Class I manuscript and not addressed either by the field editor nor the hydrographer. This pile should be charted with notation "existance doubtful." This item should be investigated in the future. NC Do not concur
Pile is considered discredited by the present survey JPS

3. HYDROGRAPHY

a. The agreement at crossings on this survey is adequate; depths agree within the limits prescribed by the Hydrographic Manual except for the following: The field ran the main scheme in the vicinity of Latitude 30°46'45", Longitude 81°29'22" on March 21 then went back on March 27 and April 17 and ran check lines. These check lines were in the area of the channel being dredged by the U.S. Army Corps of Engineers and the check lines ran after dredging differ from the

main scheme by +15 feet in the area of the channel. The difference is only in the area of the channel. The 30 foot curve outside the channel area is in agreement with these check lines. concur JPS

b. The standard depth curves were drawn in their entirety with the exception of small proportions of the "Zero" curve. concur

c. This survey is considered adequate to delineate the basic bottom configuration and least depths with the following consideration:

The U.S. Army Corps of Engineers was in the process of dredging the channel area from Latitude 30°47'30" to Latitude 30°45'00" at the time of this survey. Some of the hydrography on this survey was run before the dredging was complete in the area of the channel, and consideration of the after dredging survey of the U.S. Army Corps of Engineers will have to be taken before charting. concur JPS

4. CONDITION OF SURVEY

The smooth sheet and accompanying overlays, hydrographic records, and reports comply with the requirements of the Hydrographic Manual with the following exception.

The field ran some check lines toward the end of the survey after dredging was completed. These check lines disagreed with the main scheme hydrography. The main scheme hydrography in the area of the dredged channel was rejected as

follows. Position #224+3 to Position #224+7, Latitude 30°46'34.79", Longitude 81°29'18.13" and Position #264+6 to Position #265+1, Latitude 30°46'48.92", Longtitude 81°29'25.40". This was done to show the dredged channel area.

5. JUNCTIONS

Adequate junctions were made with the following surveys:

H-9805 (1979) to the northwest

H-9806 (1979) to the south

Cumberland Sound Channel Light "20" was removed prior to sounding the area on H-9801

There is no comtemporary survey to the north. This is in harmony with Chart No. 11504 (9th Edition, May 22, 1976).

Comparison reveals that the main channel has shoaled 3ft while depths west of this have deepened so that the 12 ft curve is now 130 meters west of its charted position.

6. COMPARISON WITH THE PRIOR SURVEYS

H-5753	(1935)	1:10,000
H-5754	(1935)	1:10,000
H-8106	(1954-55)	1:10,000

These are the most recent prior surveys in this area that provide complete coverage.

In general, the present survey is from 7 feet shoaler to 15 feet deeper than these prior surveys. The shoaler depths on the present survey appear to occur mostly in the southern proportion of the survey area and on the western side of the survey close in shore. The shore line appears to have receded in varying

amounts from 0 to 200 meters. This is apparent by the emergence of the feature called Big Marsh Island which now is covered by 7 to 14 feet of water. The point of Drum Point Island appears to have receded to the north approximately 200 meters also. The bottom configuration and general depths appear to have undergone fairly extensive changes. It is possible to attribute some of the differences to natural causes and to a greater degree the dredging that has occured in the Kings Bay Approach Channel. The present survey is adequate to supersede the prior survey in their common area.

sub
Bg Marsh I. falls on H-9806(1979) the junctional survey to the south

concur JPS

7. COMPARISON WITH CHART NUMBER 11503 (29TH EDITION, JULY 9, 1977)

a. Hydrography

Most of the charted hydrography (98%) originates with the previously discussed prior surveys. The remaining soundings originate with a source not readily ascertainable at the time of verification, but possibly originate with U.S. Army Corps of Engineers surveys. The U.S. Army Corps of Engineers has done extensive dredging in the area from Latitude 30°45'00" to Latitude 30°47'30". Only a small section on the north was available for comparison but the agreement was excellant (0-1 foot).

The present survey is adequate to supersede the charted information when consideration is given to the U.S. Army Corps of Engineers dredging surveys in the channel areas.

concur JPS

b. Controlling Depths

The charted controlling depth notes are from 8 to 10 feet shoaler than these areas on the present survey. This change reflects the dredging done on the Kings Bay Entrance Channel. portions of Range E Channel have shoaled, however the after dredging C&E surveys should be used for charting (vicinity of lat 30°46.74'N, long. 81° 29.30'W)

The charted channel at approximate Latitude 30°47'45", Longitude 81°29'30" that has a controlling depth of 12 feet appears to have shoaled to 11 feet at the northern end on the present survey. This former channel has shoaled to 6 ft. depths & substantiates the charted note "shoal rep 1976"

c. Aids to Navigation

The aids as located in the present survey adequately mark their intended features. Some of these aids are of a temporary nature. The Descriptive Report further describes this situation under Section "N". Check Coast Guard for all aids within the survey area.

Do not concur with first sentence. JPS

concur JPS

concur JPS,

8. COMPLIANCE WITH INSTRUCTIONS

This survey adequately complies with the project instructions.

9. ADDITIONAL FIELD WORK

This is a good basic survey. No additional field work is recommended except as noted in section 2.b.4) of this report. The delineation of the pier under construction & acquisition of sdgs in this area should be accomplished when possible. (vicinity of lat. 30°47.35'N, long. 81°29.87'W)

Inspection Report
H-9801 (1978)

Any verification errors regarding procedures and presentation of survey data detected during inspection by the Hydrographic Inspection Team have been corrected before submission for administrative approval. HIT comments regarding quality of field work, compliance with instructions, and adequacy of the survey have been incorporated within the Verifier's Report.

Examined and Approved:
Hydrographic Inspection Team
Date: January 21, 1980

Robert A. Trauschke, CDR, NOAA
Chief, Processing Division

Absent
David W. Yeager, Lt. Cdr., NOAA
Field Procedures Officer
Operations Division

R.D. Sanocki
Technical Assistant
Processing Division

Maureen Kenny, LT, NOAA
Chief, Electronic Data
Processing Branch

Billy J. Stephenson
Team Leader
Verification Branch

Approved/Forwarded

Richard H. Houlder
RADM, NOAA
Director, Atlantic Marine Center

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

OA/C352:FPS

April 10, 1980

TO: Glen R. Schaefer
Chief, Hydrographic Surveys Division

THRU: Chief, Quality Control Branch

FROM: F. P. Saulsbury
Quality Evaluator

SUBJECT: Quality Control Report for H-9801 (1979), Georgia, Cumberland Sound, Mill Creek to Stafford Island

A quality control inspection of H-9801 was accomplished to monitor the survey for obvious deficiencies with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, shoreline transfer, smooth plotting, decisions and actions taken by the verifier, and the cartographic presentation of data. In general, it was found to conform to the National Ocean Survey's standards and requirements except as stated in the Verifier's Report and as follows:

1. Additions and revisions to survey items on the smooth sheet accomplished during quality control inspection are shown on the one-half scale survey copy furnished to verification.

2. Some references to lights are incorrectly identified in the survey records as lighted daymarks or lighted daybeacons. A daymark and daybeacon are defined as unlighted fixed aids in the U.S. Coast Guard Light List. Lighted features of this nature should be properly referred to as lights and appropriately noted by the Light List name.

3. Elevations for features referenced to MHW, MLW, or chart datum are found in the survey records. Heights of features relative to the water surface and the time of the observation should be recorded. The subsequent application of actual tide correctors will provide elevations relative to the sounding datum.

4. On this type of survey which requires the running of hydrography from shore to shore with many stops and starts, the hydrographer is encouraged to acquire additional positional fixes when accelerating or slowing the launch while sounding. This will ensure accurate positioning of soundings and an accurate portrayal of the depth curves.

5. Marsh shoreline is not identified on the smooth sheet; however, this information may be acquired from the contemporary photogrammetric surveys covering the area.

cc:
OA/C35
OA/C351

UNITED STATES DEPARTMENT OF COMMERC
National Oceanic and Atmospheric Administrati
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

AUG 5 1980

OA/C351:SI

TO: OA/CAM - Richard H. Houlder

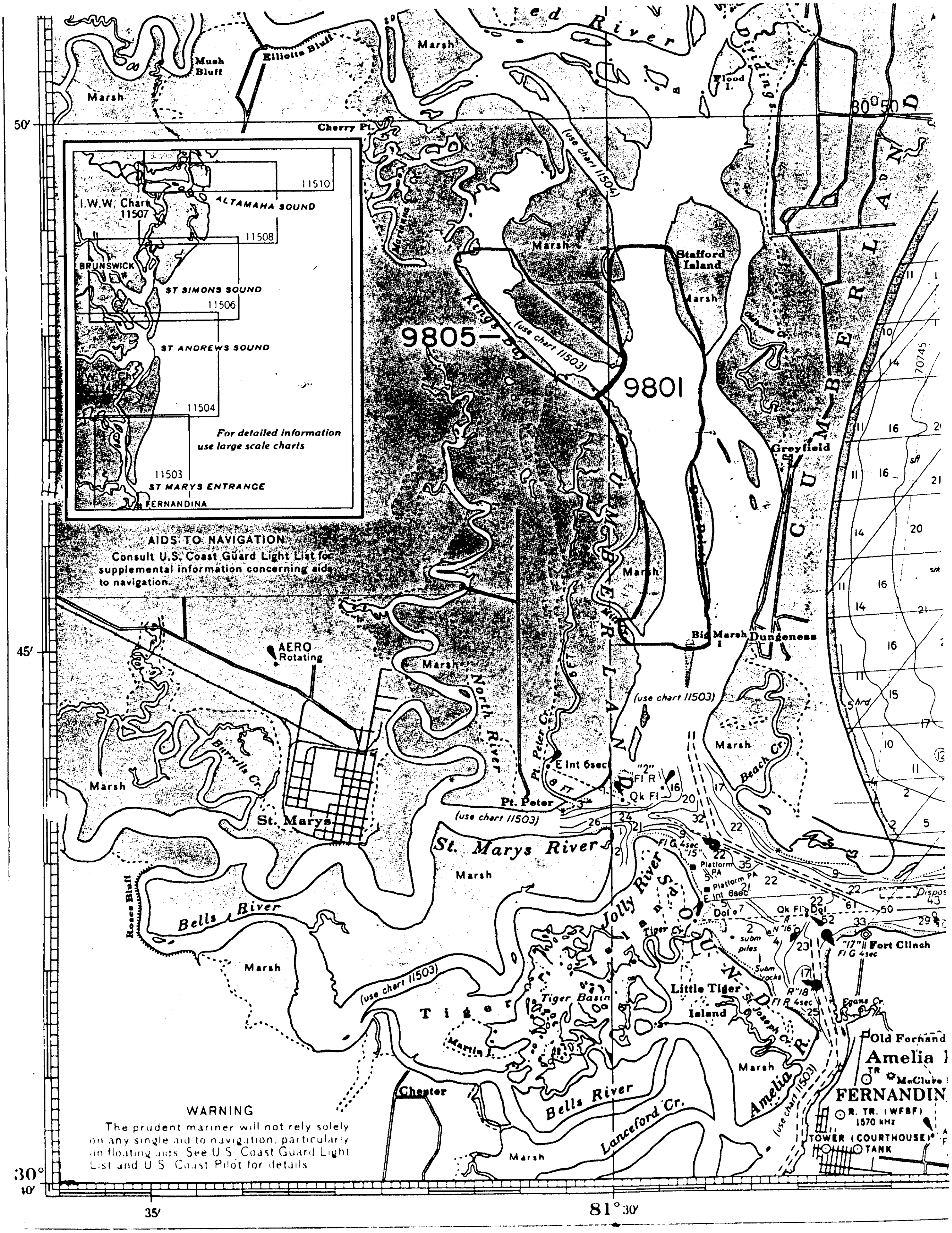
FROM: F/OA/C3 - Roger F. Lanier

SUBJECT: H-9801 (1979), OPR-G324-HFP-78, Mill Creek to Stafford Island, Cumberland Sound, Georgia, Report of Compliance with Project Instructions

The smooth sheet and Descriptive Report for the subject survey have been examined. This survey, except as noted in the Quality Control Report, dated April 10, 1980 (copy attached), and the Hydrographic Survey Inspection Team Report, dated January 21, 1980, is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-G324-HFP-78, dated July 31, 1978.

Attachment

cc:
OA/C352 w/o att.


Mush Bluff
Elliotts Bluff
Marsh
Cherry Pt.
Flood I.
30°50′
50′
(use chart 11504)
I.W.W. Chart 11507
11510
ALTAMAHA SOUND
11508
BRUNSWICK
ST SIMONS SOUND
11506
ST ANDREWS SOUND
11504
For detailed information use large scale charts
11503
ST MARYS ENTRANCE
FERNANDINA
Stafford Island
Kings Bay
(use chart 11503)
9805
9801
Greyfield
CUMBERLAND
AIDS TO NAVIGATION
Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.
Big Marsh I
Dungeness
45′
AERO Rotating
North River
Burrells Cr.
St. Marys
Pt. Peter Cr.
Pt. Peter
E Int 6sec
"2" Fl R
Qk Fl
Beach Cr.
St. Marys River
Jolly River
Roses Bluff
Bells River
Tiger Cr.
Tiger Basin
Tiger
Martin I.
Little Tiger Island
St. Joseph Cr.
Amelia R.
Fort Clinch
Egans Cr.
Old Fernandina
Amelia I
FERNANDINA
R. TR. (WFBF) 1570 kHz
TOWER (COURTHOUSE)
TANK
Chester
Lanceford Cr.
WARNING
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.
30°
35′
81°30′

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9801

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review

CHART	DATE	CARTOGRAPHER	REMARKS
11503	29 Sept 80	Alex. Radichevich	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 26 Fully apld via (H-9801) photo-reduction,
			(after inspection), outside of CHANNEL LIMITS
11489	6/15/81	B. Fernandez	Full Part Before After Verification Review Inspection Signed Via
			Drawing No. QU through Cht 11503
11504	10/19/81	[illegible]	Full Pa~~rt Before~~ After Verification Review Quality Control Inspection Signed Via
			Drawing No. 14
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.